

REMARKS/ARGUMENTS

Applicants amended the claims to correct the numbering error noted by the Examiner to overcome the Examiner's objection to the numbering.

The Examiner requested that Applicants supply the referenced cited on page 7 of the Specification. (Office Action, pg. 2) Applicants submit herewith the requested reference for review and request that the acknowledge review of this reference in a Notice of References Cited.

1. Claims 1, 3, 4, 11-13, 15, 17, 18, 25-27, 29, 31, 32, and 39-41
are Patentable Over the Cited Art

The Examiner rejected claims 1, 3, 4, 11-13, 15, 17, 18, 25-27, 29, 31, 32, and 39-41 as anticipated (35 U.S.C. §102(e)) by Pettus (U.S. Patent No. 6,223,217). Applicants traverse.

Amended claims 1, 15, and 29 concern allowing communication among processing nodes in a system, and require: receiving, in a source node, a request from a source object executing in the source node to send a message to a destination object executing in a destination node, wherein each node includes a processor capable of multitasking multiple program objects and a communication interface to transmit and receive data with the other nodes; determining, in the source node, whether the destination node and source node are a same node; invoking an operating system command in the source node to transmit the message to the destination object within the source node if the destination node is the source node; and if the destination node is not the source node, performing: (i) transmitting, with the source node, the message to the destination node through the communication interface; and (ii) invoking an operating system command in the destination node to transmit the message to the destination object within the destination node.

Applicants amended claims 1, 15, and 29 to add the requirements that an operating system command is invoked in the source node to transmit the message to the to transmit the message to the destination object within the source node if the destination node is the source node and invoking an operating system command in the destination node to transmit the message to the destination object within the destination node. These requirements are found in claims 2 and 5 which recite invoking the operating system command to transmit the message to a message

queue associated with the destination object. Claims 1, 15, and 29 do not require the message queue aspect of claims 2 and 5.

With respect to claims 2 and 5, the Examiner cited col. 10, lines 1-16 of Pettus as disclosing invoking the operating system command to transmit the message to the destination object in the source node or a different destination node. (Office Action, pgs. 7, 8). Applicants traverse. Applicants traverse.

The cited col. 10 mentions that the application requesting the service communicates with the operating system when requesting an RPC service through a caller object. Thus, the application program communicates with the operating system when requesting an RPC service.

This cited col. 10 does not disclose the claim requirements of invoking an operating system command in the source node to transmit the message to the destination object within the source node if the destination node is the source node and invoking an operating system command in the destination node to transmit the message to the destination object within the destination node. Instead, the cited col. 10 only mentions that the application program communicates with the operating system to invoke the RPC.

For instance, the cited col. 10 nowhere discloses that an operating system command is invoked in the destination node to transmit the message to the destination node when the destination node and source node are different. The cited col. 10 does not mention that an operating system command is used at the destination node to send a message to the destination object if the destination object is on a different machine. For instance, the cited col. 10 nowhere discloses or mentions that the operating system command is invoked on the remote machine to transmit the request to the service. Instead, the cited col. 10 discusses how the application invokes the RPC to request the service, not what occurs on a remote server node to send to service on the remote server node.

Still further, the cited col. 10 nowhere discloses invoking an operating system command to transmit a message to the destination object if the source and destination nodes are the same. Instead, the cited col. 10 discusses how the application communicates with the operating system to invoke an RPC service regardless of whether the application and service are on the same node or machine.

Accordingly, claims 1, 15, and 29 are patentable over the cited art because the cited Pettus does not disclose all the claim requirements.

Claims 3, 4, 11-13, 17, 18, 25-27, 31, 32, and 39-41 are patentable over the cited art because they depend from one of claims 1, 15, and 29, which are patentable over the cited art for the reasons discussed above. Moreover, the below discussed claims provide additional grounds of patentability over the cited art.

Claims 4, 18, and 31 depend from claims 3, 17, and 30 and further require that the communication interface comprises a bus and wherein including the address of the destination node in the message causes the destination node to read the at least one message packet transmitted on the bus.

The Examiner cited col. 7, lines 5-16 of Pettus as disclosing the additional requirements of these claims. (Office Action, pg. 5) Applicants traverse.

The cited col. 7 discusses how a server has many components of the client including a network adaptor and components connected by a system bus. Although the cited col. 7 discusses a system bus, nowhere does the cited col. 7 anywhere disclose that the source node includes the address of the destination node in the message that causes the destination node to read the message packet transmitted on the bus. The cited col. 7 does not disclose that the system bus is used to communicate the service request to the service.

Accordingly, claims 4, 18, and 31 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Pettus.

Claims 11, 25, and 39 depend from claims 1, 15, and 29 and further require that each object is assigned a unique object identifier in the system, and wherein the unique identifier is used within all nodes to identify the destination object to receive the message.

The Examiner cited col. 12, lines 54-67 of Pettus as disclosing the requirements of these claims. (Office Action, pg. 5) Applicants traverse.

The cited col. 12 mentions that a service object is identified by a communications directory service. Pettus mentions that this directory service is used when the application program communicates with the remote service. (Pettus, col. 12, lines 14-16). However, the claims require that the unique object identifier is used within all nodes to identify the destination object to receive the message. The cited Pettus does not disclose that the same identifier used to identify the requested service when it is a remote service is also used when the service is local, i.e., the source and destination nodes are the same. Thus, Pettus does not disclose that the same

identifier is used to identify the destination object when the destination and source nodes are the same as well as when they are different.

Accordingly, claims 11, 25, and 39 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Pettus.

2. Claims 2, 5-10, 14, 16, 19-24, 28, 30, 33-38, and 42 are Patentable Over the Cited Art

The Examiner rejected claims 2, 5-10, 14, 16, 19-24, 28, 30, 33-38, and 42 as obvious (35 U.S.C §103(a)) over Pettus in view of Lea (U.S. Patent No. 6,349,352). Applicants traverse.

First off, these claims are patentable over the cited art because they depend from one of claims 1, 15, and 29, which are patentable over the cited art for the reasons discussed above. Moreover, the following discussed dependent claims provide additional grounds of patentability over the cited art.

Amended claims 2, 16, and 30 depend from claims 1, 15, and 29 and further recite that there is a message queue associated with each object in each node, and wherein, the invoked operating system command in the source node transmits the message to the message queue associated with the destination object.

Claims 2, 16, and 30 were amended to clarify how the additional requirements of these claims concerning the message queue relate to the requirement of the invoked operating system command add to claims 1, 15, and 29.

The Examiner cited col. 22, lines 49-60 of Lea as teaching the claim requirement of a message queue associated with each object in each node. (Office Action, pg. 7) Applicants traverse.

The cited col. 22 mentions that a message packet is delivered to receiving code via a message queue or callback function. However, nowhere does this cited col. 22 anywhere teach or suggest that a message queue is associated with each object in each node. Instead, the cited col. 22 mentions how a message may be delivered via a message queue.

Moreover, nowhere does the cited Lea anywhere disclose that an operating system command in the source node is invoked to transmit the message to a message queue for the destination object when the source and destination nodes are the same. Instead, the cited col. 22 mentions how a message may be delivered via a message queue.

Accordingly, claims 2, 16, and 30 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Pettus.

Amended claims 5, 19, and 35 depend from claims 2, 16, and 30 and further require that sending the message to the destination object in the destination node comprises: determining, in the destination node, the destination object for the at least one message packet; and extracting, in the destination node, the message from the message packet, wherein the invoked operating system command in the destination node transmits the message to the message queue associated with the destination object.

Applicants amended claims 5, 19, and 35 to change the dependency to claims 2, 16, and 30 and to clarify that the invoked operating system command in the source node transmits the message to the message queue associated with the destination object.

The Examiner cited col. 22, lines 49-60 of Lea as disclosing the requirement of invoking the operating system command in the destination node to transmit the message to the message queue. Nowhere does the cited Lea anywhere disclose that an operating system command in the source node is invoked to transmit the message to a message queue for the destination object when the source and destination nodes are the same. Instead, the cited col. 22 mentions how a message may be delivered via a message queue. Moreover, the cited col. 10 of Pettus discusses how an application may communicate with the operating system to call an RPC service. Nowhere do either references teach or suggest invoking an operating system command in the destination node to transmit the message to a message queue for the destination object when the source and destination nodes are different.

Accordingly, claims 5, 19, and 35 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Pettus.

Applicants amended claims 6, 7, 20, 21, 34, and 35 to clarify that the requirements of invoking operating system commands in the source and destination nodes now have antecedent basis in the base claims.

Claims 10, 23, and 38 depend from claims 1, 15, and 29 and further requires that the system comprises a storage library system, and the electro-mechanical component comprises a component of a storage library system.

The Examiner cited col. 16, lines 20-25 of Lea as teaching the requirements of these claims. (Office Action, pg. 10). Applicants traverse.

The cited col. 16 mentions that a high level UI library provides components used by device modules to build UIs for their corresponding devices. "UI" refers to a user interface. (Lea, col. 13, line 14).

Nowhere does the cited Lea teach the that the system comprises a storage library system and the a component node for an electro mechanical component comprises a component of a storage library system. There is no teaching or suggestion in the cited Lea or Pettus concerning the use and arrangement of nodes and components as claimed for a storage library system.

Accordingly, claims 10, 23, and 38 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Pettus.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-42 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0466.

The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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